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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,927	02/24/2005	Giuseppe Morfino	15806US	2779

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EXAMINER

KASENGE, CHARLES R

ART UNIT PAPER NUMBER

2125

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/525,927

Applicant(s)

MORFINO, GIUSEPPE

Examiner

Charles R. Kasenge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6 and 22-25 is/are rejected.
- 7) ☒ Claim(s) 2,5 and 7-21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/6/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 4, 6 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuura et al. U.S. Patent 5,327,351. Regarding claim 1, Matsuura discloses a system for measuring, compensating and testing numerically controlled machine tool heads and/or tables (col. 1, lines 6-12), characterized in that it comprises: at least one support base equipped with a plurality of distance sensors (col. 3, lines 34-43 and Fig. 1); and at least one device of the gage tool type composed of an elongated cylinder, said cylinder being equipped at one of its ends with connection means for said heads and being equipped at another opposite end with a ball, said ball being placed next to said sensors so that they are able, always and in any position, to measure a distance that separates them from said ball (col. 4 and 5, lines 46-5; Fig. 1-2).

Regarding claim 3, 4 and 6, Matsuura discloses the system according to claim 1, characterized in that said connection means are of a tapered shape and said heads are adapted to receive, in one of their moving parts, said connection means for the unmovable connection thereto during the measures (col. 4 and 5, lines 46-5). Matsuura discloses the system according to claim 1, characterized in that it is operatively coupled with processing means, said processing means being adapted, through a single measure obtained by said sensors about a distance that separates said sensors from said ball, to detect the XYZ coordinates of a center of a tool in a

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position of interest (col. 4 and 5, lines 46-5). Matsuura discloses the system according to claim 1, characterized in that said heads are operatively coupled and integrated with CNC test and control means also comprising means for performing compensation processes for errors that can be modeled and means for performing compensation processes for errors that cannot be modeled (col. 7, lines 21-39).

Regarding claim 25, Matsuura discloses a process for determining errors indexes regarding rectilineity, scale and orthogonality for linear axes XYZ of a machine tool starting from measures performed with a single test cylinder with ball end, said process being able to measure a same error in different positions/shapes of a measuring head, said process distinguishing which are the errors that can be associated with movements of rotating head axes with respect to movements performed by linear axes, said linear axes being also moved, following the movements of the rotating axes, in order to keep a tip of a possible tool unmoving (col. 5, lines 18-30).

3. Claims 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Pahk et al. U.S. Patent 6,167,634. Regarding claim 22, Pahk discloses a measuring system for machine tools, characterized in that it is equipped with three non-orthogonal sensors such as to determine coordinates of a center of a ball connected to a spindle of a machine tool (Fig. 7 and col. 5, lines 25-47).

Regarding claim 23, Pahk discloses a process for measuring a position of a center of a ball connected to axes of a machine tool, using a cylinder with a ball connected to the machine tool and three distance sensors in contact with the ball (Fig. 7), said process comprising the steps

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of: defining a fixed position (1) of the ball in the inertial system XYZ ("centered ball position"); moving the machine/head to the position (1); driving again the ball in its centered ball position; recording a position (2) of the machine axes XYZ (X1, Y1, Z1); moving the machine/head to position (2); driving again the ball in its centered ball position; recording a position of the machine axes XYZ (X2, Y2, Z2); wherein the differences X1-X2, Y1-Y2, Z1-Z2 are the errors made by the CNC system in carrying out its movements from position (1) to position (2) (col. 5, lines 25-47).

Regarding claim 24, discloses a computerized numeric control algorithm characterized in that it is able to bring back a ball in an inertial position XYZ by using three non-orthogonal distance sensors in contact with the ball (Fig. 7 and col. 5, lines 25-47).

#### ***Allowable Subject Matter***

4. Claims 2, 5 and 7-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

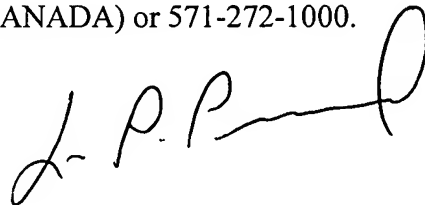
#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R. Kasenge whose telephone number is 571 272-3743. The examiner can normally be reached on Monday through Friday, 8:30 - 5 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'L. P. Picard', with a large, stylized loop at the end.

CK  
December 1, 2006

**LEO PICARD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100**